



Illinois Department of Transportation

Memorandum

To: DIRECTORS, DEPUTY DIRECTORS, AND BUREAU CHIEFS
From: Dianna L. Taylor
Bureau Chief of Personnel Management
Subject: Technical Vacancy/**RECRUITMENT**
Date: February 17, 2016

Attached are the Position Summary Sheet and Position Description for the vacant technical position listed below. Please post this vacancy announcement February 18, 2016 in the designated areas.

The deadline for applicants to submit their names for consideration is **4:30 p.m.** on **Wednesday, March 2, 2016**. Applicants will not be accepted after that time and date.

NOTE: Official college transcripts must be included with application. Applicants possessing an Engineer Intern License must also include a copy with application. Applicants not submitting these documents by the posting deadline will not be considered for employment. Please include IPR number on the application.

All applicants will receive a position description for the position they are applying for. If you have any questions, please contact Denise Hamilton or Jennifer Sunderland at 217/782-5594.

CET (2 pos) Geotechnical Engineer Trainee
Bureau of Bridges & Structures
Highways
Springfield

Attachments
40796

Technical Applications (PM 1080) **must be received** by the Bureau of Personnel Management, Room 113, 2300 South Dirksen Parkway, Springfield, IL 62764 (Fax# 217/557-3134) by **Wednesday, March 2, 2016**, 4:30 p.m. Please include address, daytime phone and position for which applying if not already listed on application. Applicants will be notified in writing to schedule interviews. **NOTE: Official college transcripts must be included with application. Applicants possessing an Engineer Intern License must also include a copy with application. Applicants not submitting these documents by the posting deadline will not be considered for employment. Please include IPR number on the application.**



Illinois Department of Transportation

An Equal Opportunity Employer

Position Summary Sheet

Classification:	Civil Engineer Trainee (2 positions)/RECRUITMENT	Salary Range:	\$4,275 - \$4,655
Position Title:	Geotechnical Engineer Trainee	Union Position:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
Position Number:	PW110-23-50-905-30-01	IPR#:	40796

Office/Central Bureau/District/Work Address:

Division of Highways/Bureau of Bridges & Structures – 2300 South Dirksen Parkway, Springfield, IL

Description Of Duties:

This position provides structural engineers with geotechnical recommendations on simple projects so that the most cost effective, safe and durable structure is constructed. This is accomplished by performing simple analyses to design or review and approve consultant designed foundations supporting bridges, retaining walls, culverts and other traffic structures. The incumbent provides foundation and geotechnical design parameters, plan modifications, and specification input to the structural engineer so the contract documents do not create construction delays or contractor claims. In addition, this position assists districts, contractors, consultants, and in-house structural engineers in responding to or resolving soils related design and construction problems.

Special Qualifications:

The following criteria is required:

- Bachelor of Science in Civil Engineering from an ABET accredited university prior to date of employment or must be a Licensed Engineer Intern in the State of Illinois (includes those expecting to graduate in Spring 2016)
- Minimum 2.5 cumulative GPA in engineering related courses (If GPA is between a 2.0-2.5, candidate must have passed Fundamentals of Engineering Exam.)
- Official college transcripts must be included with application. (Official transcripts including graduation date for Spring 2016 graduates must be provided at time of hire.)

The following criteria is desired:

- Strong oral and written communication skills

Shift/Remarks:

8:00 am – 4:30 pm / Monday – Friday

THIS IS AN ENTRY-LEVEL POSITION

**ILLINOIS DEPARTMENT OF TRANSPORTATION
POSITION DESCRIPTION**

DATE:	January 12, 2016	POSITION:	Geotechnical Engineer Trainee
APPROVED BY:	<i>William Kramer</i>	OFFICE/DIVISION:	Division of Highways/Bureau of Bridges and Structures
CODE:	PW110-23-50-905-30-01	REPORTS TO:	Geotechnical Group Engineer

Position Purpose

This position provides structural engineers with geotechnical recommendations on simple projects so that the most cost effective, safe and durable structure is constructed. This is accomplished by performing simple analyses to design or review and approve consultant designed foundations supporting bridges, retaining walls, culverts and other traffic structures. The incumbent provides foundation and geotechnical design parameters, plan modifications, and specification input to the structural engineer so the contract documents do not create construction delays or contractor claims. In addition, this position assists the districts, contractors, consultants, and in-house structural engineers in responding to or resolving soils related design and construction problems.

Dimensions

Subordinate Personnel	0
Annual Projects	25 to 50
Contract Value:	\$75M

Nature and Scope

This position reports to the Geotechnical Group Engineer. There are no subordinates reporting to this position.

This position operates in an environment where multiple projects are assigned to the incumbent, the general review scope is provided and the incumbent is expected to work for the most part independently to provide competent recommendations to the Geotechnical Group Engineer by the requested completion date. The incumbent has broad latitude in utilizing judgment on how to complete assignments, as well as having the responsibility to seek input and concurrence from the Geotechnical Group Engineer when deviating from policy and resolving simple issues in order to maintain unit productivity. As part of the incumbent's duties he/she may be asked to perform geotechnical analyses on simple projects; this may involve working with consultants (both geotechnical and structural), as well as District and Bureau staff to ensure cost effective, safe, accurate geotechnical recommendations along with resolving problems, considering the site and subsurface design constraints.

The incumbent is responsible for developing and maintaining a comprehensive knowledge of geotechnical engineering theories and practice so that s/he is capable of solving and reviewing somewhat unique and simple problems by utilizing advanced geotechnical analyses and procedures. As such they require innovative analyses and designs not normally required on more common projects. The greatest challenge faced by the incumbent is to be resourceful and apply the latest technological developments in geotechnical engineering to these simple departmental projects.

The incumbent would prepare in-house Structure Geotechnical Reports (SGRs) on simple projects, review consultant-prepared SGRs, and communicate review comments to the consultants to ensure completeness of the SGR which is used in the development of the TSL plans, design computations, final contract plans, and

construction specifications. The position is also responsible for making sure that the appropriate subsurface soils data has been gathered and is commensurate with the complexity of the projects. In addition, TSL plans, final plans, local agency designs, and construction submittals on simple projects are reviewed and recommendations are issued by the incumbent to address any geotechnical problems uncovered.

The recommendations made by the incumbent will be often related to a foundation, retaining wall, or site soils ability to carry design loads, the adequacy or development of plan details, and the review or writing of specifications. S/He is responsible for the analyses, design, or review of simple bridge foundations, earth retaining systems, ground modification, ground anchors, river cofferdams, temporary soil retention systems, as well as sign, light, and traffic structure foundations, construction control of pile driving, and drilled shaft installation. The incumbent may need to conduct field inspections to view and address geotechnical challenges in either the planning, design, or construction phases.

The incumbent must maintain a working knowledge of and be guided by the AASCHTO design and construction specifications and applicable departmental policies. S/He maintains moderate contact with the Federal Highway Administration on foundation policies as well as technology transfer and occasional contact with university personnel involved in previous or current research to answer questions on geotechnical issues.

The effectiveness of this position is measured by the accuracy and expertise observed by the Geotechnical Group Engineer, the timeliness with which tasks are completed, and his/her ability to communicate simple issues with their supervisor, consultants and co-workers.

Principal Accountabilities

1. Prepares and/or review consultant Structure Geotechnical Reports on simple projects.
2. Reviews the foundations and geotechnical aspects of structural consultant and in-house Type Size & Location Plans for simple structures.
3. Reviews the foundations and geotechnical aspects of structural consultant and in-house Final Plans for simple major structures.
4. Review simple construction submittals including cofferdams, seal coats, temporary soil retention systems, drilled shaft installation procedures, ground modification designs, tie-back anchor and micro-pile designs, value engineering, construction problems, MSE and soil nailed wall internal stability, noise wall foundations, and other less common requests.
5. Review simple Local Agency structure foundations and geotechnical reports as well as repair plans for foundations, slopes, and retaining walls.
6. Design simple single shaft foundations for high mast light towers, overhead sign trusses, and traffic signal mast arms when standard design tables provided on the standard base sheets and manuals cannot be used.
7. Performs other duties as required or assigned.
8. Performs duties in compliance with departmental safety rules. Performs all duties in a manner conducive to the fair and equitable treatment of all employees.